WHAT IS CLAIMED:

1. Apparatus for detecting a breath pattern of a breathing patient having lungs and a nose and mouth in communication with the lungs and breathing through the nose and/or mouth and creating an airflow into and out of the lungs, comprising a first sensor in close proximity to the face of the patient for monitoring said airflow to provide a first channel of airflow information in an analog format, analog-to-digital conversion means for converting the first channel of airflow information in an analog format into a first channel of airflow information in a digital format, means filtering the airflow information in the digital format in the first channel of information to improve the signal-to-noise ratio of the signal to provide filtered airflow information, means operating on the filtered airflow information for estimating the amount of air volume inhaled and exhaled by the patient to provide a signal representing the estimated volume of air, a wavelet transform feature extractor for providing a continuous- time wavelet transform of the estimated volume of air for ascertaining whether a breathing pattern has been recognized and providing a breathing pattern signal, a neural network pattern recognizer operating on the breathing pattern signal to ascertain when disordered breathing is occurring and providing a disordered breathing signal and means operating on the

disordered breathing signal to separate the disordered breathing into apnea and hypopnea categories.

2. Apparatus as in Claim 1 wherein said means for monitoring said airflow includes a piezoelectric vibration sensor.

3. Apparatus as in Claim 1 wherein said means for monitoring said airflow includes a microphone.

4. Apparatus as in Claim 3 further including active noise cancellation means for suppressing background noise in the airflow information in a digital format.

5. Apparatus as in Claim 1 further including event counting and storage means for counting apnea and hypopnea events with respect to time.

6. Apparatus as in Claim 5 further comprising ~~ambient sound sensing means for sensing sound~~ means for sensing sound in the vicinity of the patient and supplying an analog signal in a second channel, analog-to-digital means for converting the signal in the second channel into a digital format and means for supplying the second channel of digital information to the wavelet feature extractor.

7. Apparatus as in Claim 1 further including a logarithmic converter for converting the signal representing the estimated volume of airflow and supplying the same to the neural network pattern recognizer.

8. Apparatus as in Claim 1 further comprising an additional sensor for supplying a signal in analog format and analog-to-digital conversion means for converting the signal from the additional sensor and supplying the same to the wavelet feature extractor means.

9. Apparatus as in Claim 8 wherein said additional sensor is an oxygen saturation sensor.

10. Apparatus as in Claim 1 further including a logarithmic converter for receiving the same information as received by the wavelet transform feature extractor and supplying an output to the neural network pattern recognizer.

11. A method for detecting a breath pattern of a breathing patient having lungs and a nose and a mouth in communication with the lungs and breathing through the nose and/or mouth and creating an airflow into and out of the lungs, comprising detecting airflow from the nose and/or mouth of the patient and providing a first

channel of airflow information in an analog format, converting the first channel of information in analog format into a digital format, filtering the airflow information in the digital format to improve the signal-to-noise ratio in the airflow information, estimating the air volume inhaled and exhaled by the patient, providing a continuous-time wavelet transform of the estimated volume of air to ascertain when a breathing pattern is being recognized, ascertaining whether the breathing pattern is an abnormal breathing pattern, and classifying the abnormal breathing pattern into apnea and hypopnea events.

12. A method as in Claim 11 further including the step of recording the apnea and hypopnea events.

13. A method as in Claim 11 wherein the airflow is detected by sensing sound.

14. A method as in Claim 11 wherein the airflow is detected by sensing a turbulence in the airflow to provide vibrations.

15. A method as in Claim 11 further comprising the steps of sensing ambient noise in the vicinity of the patient to provide an analog signal, converting the analog signal to a digital signal in a second channel of information, processing the second channel of

information and combining the first channel of information with the second channel of information during the step of providing a continuous-time wavelet transform of the estimated volume of air for ascertaining whether a breathing pattern is being recognized.

16. A method as in Claim 11 further comprising the step of logarithmically converting the estimated volume of air and combining that information with the wavelet transform-based feature extraction for providing a continuous-time wavelet transform of the estimated volume of air.